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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/712,474	11/14/2000	Anil Raj Duggal	RD-28,259	9029

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH CENTER
PATENT DOCKET RM. 4A59
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EXAMINER

VU, JIMMY T

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 01/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/712,474

Applicant(s)

DUGGAL ET AL.

Examiner

Jimmy T Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 46-51 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-28 is/are allowed.
- 6) ☒ Claim(s) 1-3, 29 and 46-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-29 and 46-51 have been considered but are moot in view of the new ground(s) of rejection.

Despite applicant's disagreement, the examiner decides to provide new rejection as below in view of applying AC voltage directly to LED.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Allen (U.S. Patent number 6,072,280).

Regarding claim 1, Allen discloses a light emitting device comprising:
a plurality of organic light emitting diode (OLED) modules (104) (Fig. 1, col. 2, line 61, col. 3, line 5) electrically connected in series; and
an alternating current (AC) power source (110) (Fig. 1, col. 2, line 66) electrically connected to and providing an AC voltage directly to the plurality of OLED modules (Fig. 1), said voltage and said current inherently having a waveform characteristic.

Claim Rejections - 35 USC § 102

4 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 46 and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Okuda (U.S. Patent number 5,828,181).

Regarding claim 46, Okuda discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (Fig 9, col. 2, lines 1-45).

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Regarding claim 47, Okuda discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (col. 2, lines 1-45).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-3, 29 and 48-51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (U.S. Patent number 6,072,280) in view of Okuda (U.S. Patent number 5,828,181).

Regarding claim 2, Allen discloses a light emitting device comprising a plurality of organic light emitting diode (OLED) modules (104) (Fig. 1, col. 2, line 61) electrically connected in series, wherein the OLED modules emit light upon application of an AC voltage. Allen does not show a substrate. However, as evidenced by Okuda, providing a substrate (105) (col. 1, line 32) is well known in the art. Therefore, it would have been obvious to an ordinary skill in the art at the time of the invention was made to provide the device of Allen with the substrate as taught by Okuda in order to create the lighting system for processing the display device.

Regarding claim 3, Allen discloses the light emitting device comprising: at least one first conducting line provided on the substrate which electrically connected to a first end of each

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OLED series group; and a second conducting line provided on the substrate which electrically connected to a second end of each OLED series group opposite the first end (Fig. 5).

Regarding claim 48, the combination of Allen and Okuda discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (col. 2, lines 1-45 of Okuda), wherein the plurality of OLED modules is grouped into a plurality of series groups, and the OLED modules of each series group are electrically connected in series (Fig. 1, col. 2, lines 60-62 of Allen).

Regarding claim 49, Okuda discloses the display wherein each OLED module has the shape of a letter or image (col. 2, lines 1-45).

Regarding claim 50, Okuda discloses a display comprising a plurality of organic light emitting diode (OLED) modules arranged to spell out at least one letter or depict an image (col. 2, lines 1-45 of Okuda), wherein the plurality of OLED modules are electrically connected in parallel (Figs. 4-9).

Regarding claims 29 and 51, the method steps are necessitated by the device structure as it is disclosed by Allen in view of Okuda.

Allowable Subject Matter

8. Claims 4-28 are allowed.

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None of the prior art teaches the converting circuit that converts an applied AC voltage with the sinusoidal waveform to the converted voltage waveform and applies the converted voltage waveform to the at least one first and the second conducting lines.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshikawa et al. disclosed related art.

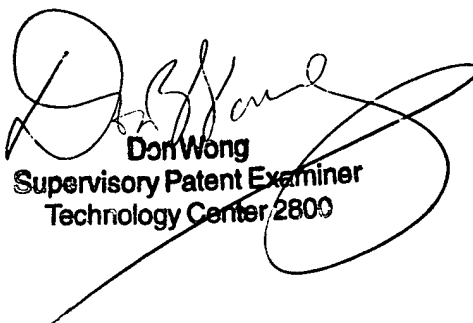
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy Vu whose telephone number is (703) 306-5451. The examiner can normally be reached on Monday to Friday from 9:00am to 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (703) 308-4856. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 or (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center receptionist whose telephone number is (703) 308-0956.

Jimmy Vu

January 10, 2003


Don Wong
Supervisory Patent Examiner
Technology Center 2800